

U.S. Patent Application No.: 09/808,299
Amendment dated October 29, 2004
Attorney Docket No.: 713-11-PA

REMARKS/ARGUMENTS

This paper is submitted in response to the office action mailed August 2, 2004.
Reconsideration is respectfully requested.

Claims 45-47 and 49-58 are pending. Claims 49-56 have been canceled pursuant to a restriction/election requirement. Claims 45-47 and 57 stand rejected. Claim 58 has been objected to as depending from a rejected claim.

By this amendment, Claims 45-47 have been amended, and new claims 59-60 have been added. As discussed below, it is respectfully submitted that claims 45-47 and 57-60 are allowable over the art of record.

Claims 45-47 and 57 were rejected under 35 U.S.C. §102(b) as anticipated by FR 2,367,148, and by EP 0188358. These rejections are respectfully traversed.

Claim 45, as amended, now defines the vortex-shedding surface discontinuity as being provided by a notch formed by a radially inward-directed wall thickness discontinuity of the segment. Support for this limitation is found in the specification, for example, in the paragraph beginning at page 18, line 5, and in Figures 4-23 of the drawings. This structure is neither shown in nor suggested by the French reference, which, instead, shows projections or strakes extending outwardly from the surface of a substantially cylindrical columnar segment. Therefore, claim 45, as amended, defines patentably over this reference.

Claim 45 was also rejected as anticipated by the European reference. The European reference relates to an antifouling coating for a submerged structural member, and thus has nothing to do with VIV reduction. The anti-fouling coating in the reference is attached with tensioning straps 6. There is nothing to suggest that these straps would perform any VIV reduction function. The reference is therefore non-analogous art, as applicant contended in response to the previous office action.

Indeed, the European reference discloses none of the relevant VIV reduction structure defined in claim 45 as amended. To "anticipate" the claim under 35 U.S.C. §102(b), the reference must teach all of the limitations of the claim. The European reference does NOT teach or suggest a vortex-shedding discontinuity provided by a notch formed by a radially

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inward-directed wall thickness discontinuity, as defined in claim 45. Nor is there anything in this reference that teaches or suggests any structure in which the surface discontinuities of the plurality of segments define a discontinuous, stepwise, approximately helical pattern of vortex-shedding discontinuities along the length of the structure, as defined in claim 45. Therefore, the European reference cannot anticipate claim 45.

It is not understood how US 6,702,026 – Allen et al. makes the European reference relevant to the claimed invention. This reference merely states that a “very smooth cylinder does not experience VIV” within a particular Reynolds number range (column 7, lines 21-23). There is nothing in the European reference to suggest that the coating with its tensioning straps and seams has the requisite degree of surface smoothness to produce any VIV reduction effect. If Allen et al. teaches anything at all about the European reference, it would be that the non-smooth surface of the European device would not have any meaningful VIV reduction effect.

It is therefore respectfully submitted that claim 45, as amended, defines patentably over the cited art, and should be allowed. Claims 57-59, which depend from claim 45, should likewise be allowed. It is noted that new claim 59 defines subject matter that is described in the specification at page 20, lines 20-23, and in the drawings, particularly in Figures 6-18.

New claim 60 has been added to present the allowable subject matter of claim 58 in independent form. Claim 60 should therefore be allowable, along with claims 46 and 47, which have been amended to depend from claim 60.

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In summary, it is respectfully submitted that claims 45-47 and 57-60 are allowable over the art of record. Passage of the application to issue is therefore earnestly solicited.

Respectfully submitted,

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